

EXCEPTIONAL EVENTS UPDATES

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AAPCA Spring Meeting
March 28, 2017



Exceptional Events

- On September 16, 2016, the EPA finalized the **2016 Revisions to the Exceptional Events Rule**, which address issues raised by stakeholders and increase the administrative efficiency of the Exceptional Event demonstrations process
 - <https://www.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>
 - Rule effective date was September 30, 2016
 - Published in Federal Register on October 3, 2016 (81 FR 68216)
 - NRDC/Sierra Club filed a Petition for Review on December 2, 2016 (petitioners' brief due 5/17/17, EPA response due 8/17/17)
- General Exceptional Events Rule Background
 - Establishes procedures and criteria for identifying and evaluating air quality monitoring data affected by exceptional events
 - Provides a mechanism by which air quality data can be excluded from regulatory decisions and actions
 - Applies to all criteria pollutants and NAAQS and all event types to which the rule applies
 - Applies to all state air agencies, to (delegated) local air agencies, to tribal air agencies that operate air quality monitors that produce regulatory data and to federal land managers/federal agencies if agreed by the state
 - Affects design value calculations, NAAQS designation decisions, attainment determinations, and State / Tribal / Federal Implementation Plan (SIP/FIP/TIP) development



Exceptional Events Rule Revisions

- Clarify the types of determinations and actions to which the authorizing statutory authority in Clean Air Act (CAA) section 319(b) applies
- Return to the core statutory elements of CAA section 319(b)
- Clarify “not reasonably controllable or preventable” criteria
- Clarify high wind elements currently addressed in guidance
- Codify requirements for the content and organization of exceptional events submittals
- Remove “general schedule” deadlines for data flagging and demonstration submittal



Exceptional Events Rule Revisions and Guidance

- New fire-related rule language and preamble text
- Mitigation Regulatory Requirements
- Other provisions
 - Address who may submit a demonstration
 - Event aggregation
 - Identified in preamble intended timelines for EPA response
- Final Wildfire/Ozone Exceptional Events Implementation Guidance



Exceptional Events Implementation: Stakeholder Feedback

- November 2016 implementation workshops for states and tribes (Denver – 11/8/16; Dallas – 11/30/16)
- General feedback
 - Participants were generally pleased with both the rule revisions and the content of the workshop
 - Participants requested further guidance and similar implementation workshops (both for exceptional events and other EPA programs) and asked for follow-up communication and outreach workshops/webinars following promulgation
 - Participants asked that EPA continue to find ways to reduce the transaction costs in exceptional events demonstrations
 - Participants called for continued EPA communication and support with more tools and examples as they become available



Exceptional Events Implementation: Available Resources

- Exceptional Events Website at <http://www2.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>
- Quick reference guide for exceptional events demonstrations
- Examples of reviewed exceptional event submissions
- Best practices documents
- Links to publicly available support information and tools
- Links to rule and guidance resources
 - Final rule
 - Final wildfire/ozone guidance
 - Fact sheets
 - 2013 interim guidance documents



Exceptional Events Implementation: Next Steps

- The 2016 rule revisions and final wildfire/ozone guidance were needed first steps, but efficient and coordinated implementation is critical.
- What is next?
- Additional Implementation Materials
 - Revisions to 2013 *Interim Exceptional Events Guidance Documents*
 - Stratospheric Ozone Intrusion Document
 - Alternate Paths for Data Exclusion Document
 - Prescribed Fire/Ozone Document
- Continued development of exceptional events tools
 - Templates
 - Website updates
 - AQS modifications to reflect rule revisions guided by feedback from newly created AQS workgroup
 - Standardized metrics and tracking
 - Targeted efforts with FLMs – communications and tools
 - Best practices for multi-state exceptional events demonstrations



Questions and Comments



2017 ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES SPRING MEETING MARCH 27-29, 2017

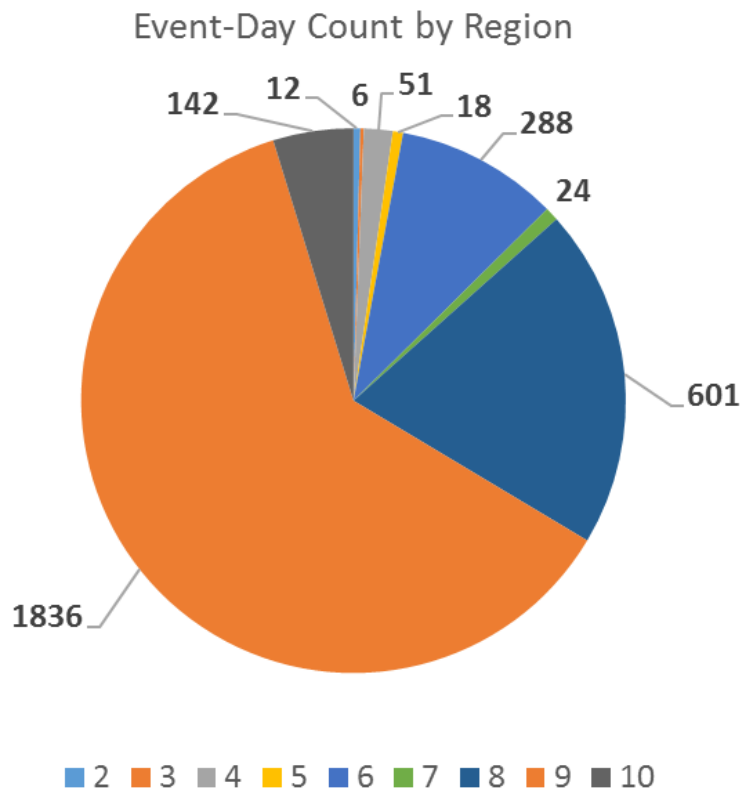


OUTLINE

- Region 9 Exceptional Event Picture
- Region 9 Efforts on Exceptional Events
- Exceptional Events and Phoenix 5 % Plan
- Washoe County Wildfire Exceptional Events

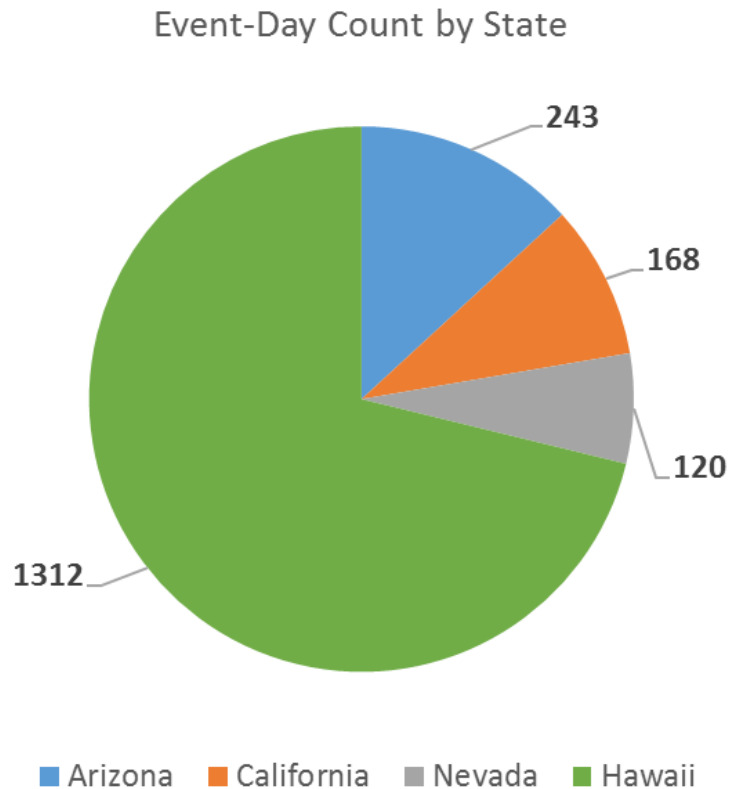


EVENT-DAY COUNT 2011-2015



- Region 9: 67%
- Region 8: 20%
- Region 6: 10%

REGION 9 EVENT-DAY COUNTS



- Hawaii: 71%
- Arizona: 13%
- California: 9%
- Nevada: 7%
- Only 6 event days affect O₃ designations

PRIMARY CONCERNS FROM R9 AGENCIES

Potential conflicting priorities between EPA and State and local agencies on how to determine regulatory significance and priority for EPA review and action.

- Influence on future design value years is difficult to assess
- Changing deadlines, submittal dates, etc

Complex exceptional events demonstrations (ozone – wildfire/stratospheric intrusion) can be a challenge, the rule is too burdensome, and more streamlining is needed.

WHAT REGION 9 IS DOING

- To help inform our partners, Region 9 has been an early adopter of the Initial Notification process, which is an attempt to communicate EPA's intent with respect to a particular demonstration.
- Early communication and coordination w/ EPA can provide clear deadlines and expectations.
- Generally, we provide assistance, review, and input on the appropriate technical analysis on a case-by-case basis and typically work closely with the affected agency during the development of the demonstrations.
- Region 9 is following the principles in the revised rule with respect to the applicable actions in which EPA will act on exceptional events requests.
- Generally, we have been focusing efforts on demonstrations that affect attainment/nonattainment decisions.

PHOENIX 5% PM-10 PLAN

- In order to demonstrate attainment by 2012, ADEQ had to prepare 137 high wind EE claims for 2011 and 2012 (25 days).
- In order to approve the plan as meeting the CAA, EPA had to concur on most of these EEs as part of plan review.
- EPA approved 135 out of the 137 EE claims and was able to approve the plan as attaining the PM-10 standard by 2012 (79 FR 33107, June 10, 2014)
- Petition for Review from ACLPI on behalf of Sierra Club followed, specifically citing the exclusion of the 135 EEs things as “an abuse of discretion and is contrary to law”

PHOENIX 5% PM-10 PLAN (CONT'D)

- Ninth Circuit upheld EPA's approval of the EEs and stated that "In order to obtain EPA approval to exclude exceptional event data , a state must provide evidence that the event satisfies the criteria set forth in 40 CFR 50.1(j) and meets other criteria." ADEQ provided such evidence.
- Ninth Circuit also agreed with ADEQ and EPA that the control measures in existing SIPs meant that reasonable controls were in place, a requirement to concur on the EEs.
- Technically and legally defensible demonstrations are key to success.

WASHOE COUNTY

■ Washoe County: Wildfire Ozone

- Washoe County's 2013-2015 and preliminary 2014-2016 ozone design values are just over the new 2015 ozone NAAQS of 70ppb. Exceptional event demonstrations could impact their designation status.
- 2015 ozone wildfire: Washoe sent an initial notification of intent to prepare a demonstration for an ozone wildfire exceptional event that occurred over three days in August 2015.
 - If EPA concurs on one of the exceedance days, the 2013-2015 design value will be below the 2015 NAAQS.
 - Washoe has submitted demonstrations and additional analysis in March 2017
- 2016 ozone wildfire: Washoe also has sent an initial notification for an ozone wildfire event that occurred over three exceedance days in July 2016
 - Even if EPA concurs on a combination of event days from 2015 and 2016, the 2014-2016 design value will be below the 2015 NAAQS.
 - EPA continues to work very closely with Washoe on the preparation of 2016 event demonstrations to meet regulatory deadlines of the designations process.

QUESTIONS/COMMENTS

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EXCEPTIONAL EVENTS UPDATES

MELINDA BEAVER

US EPA-OAR-OAQPS

MIDWEST AND CENTRAL STATES AIR QUALITY WORKSHOP

JUNE 2016



BACKGROUND

■ Origin of the 2007 Exceptional Events Rule

- Required by statute (Section 319 of the Clean Air Act)
- Applies to all criteria pollutants and NAAQS and all event types

■ Elements of the Exceptional Events Rule

- Establishes procedures and criteria for identifying, evaluating, interpreting, and using air quality monitoring data affected by exceptional events
- Provides a mechanism by which air quality data can be excluded from regulatory decisions and actions
- Affects design value calculations, NAAQS designation decisions, attainment determinations, and State / Tribal Implementation Plan development

BACKGROUND

- Implementation of the 2007 Rule has been challenging
 - Exceptional events are unique and varied
 - Difficult to provide guidance that is both concrete and generally applicable
 - Difficult to pre-determine how much evidence / technical analysis for demonstrations is enough
 - Final rule text and preamble left room for interpretation
- EPA efforts to address challenges
 - May 2013 - EPA finalized Interim Exceptional Events Implementation Guidance
 - May 2013 – EPA announced intent to revise the Exceptional Events Rule and develop wildfire/ozone implementation guidance
 - August thru November 2013 – Stakeholder outreach and listening sessions related to rule revisions
 - December 2014 – Exceptional events website redesign and development/publication of exceptional events criteria/pollutant matrix with linked examples
 - Mid-2014 thru early 2015 – Focused best practices conference calls with EPA Regional offices and states

EXCEPTIONAL EVENTS

- Exceptional Events Rule Revisions and Wildfire Guidance Development
 - November 10, 2015 – sign Notice of Proposed Rulemaking for rule revisions and Notice of Availability for draft guidance
 - November 20, 2015 – publication in Federal Register (80 FR 72840)
 - December 8, 2015 – public hearing in Phoenix, Arizona
 - February 3, 2016 – close of comment period
 - Summer 2016 – sign final rule and issue final guidance document

- Communication and Outreach
 - Summer/Fall 2016
 - Additional draft guidance document(s) available for stakeholder review
 - Revisions to 2013 Interim Exceptional Events Implementation Guidance
 - Continued development of exceptional events tools (e.g., website, templates)
 - Implementation workshop(s)/webinars for states, tribes, and other affected stakeholders following promulgation

PROPOSED EXCEPTIONAL EVENTS RULE REVISIONS

- Clarify the types of determinations and actions to which the authorizing statutory authority in CAA section 319(b) applies
- Return to the core statutory elements and implicit concepts of CAA section 319(b)
- Clarify “not reasonably controllable or preventable” criteria
- Clarify high wind elements currently addressed in guidance
- Codify requirements for the content and organization of exceptional events submittals
- Remove “general schedule” deadlines for data flagging and demonstration submittal
- New fire-related rule language and preamble text

DRAFT WILDFIRE/OZONE EXCEPTIONAL EVENTS IMPLEMENTATION GUIDANCE

- Full document name: *Draft Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations*
- What does the draft guidance do?
 - Incorporates and applies the proposed rule revisions to wildfire/ozone events
 - Provides example analyses, conclusion statements, and technical tools that air agencies can use to provide evidence that the wildfire event influenced the monitored ozone concentration
 - Invites comment on the appropriateness of either expanding the wildfire/ozone guidance, or developing a separate guidance document, to specifically address demonstration components for prescribed fires

DRAFT WILDFIRE/OZONE EXCEPTIONAL EVENTS IMPLEMENTATION GUIDANCE

■ What does the draft guidance do?

- Identifies fire and monitor-based characteristics that would allow for a streamlined demonstration package using a three-tiered approach
 - Tier 1 demonstrations
 - Simplest and least resource intensive
 - Apply when fire events cause clear O₃ impacts in areas or during times of year that typically experience lower O₃ concentrations
 - Use time series plot and evidence of transport to the monitor
 - Tier 2 demonstrations
 - Apply when the impacts of the fire on O₃ levels are less clear and would require more evidence than Tier 1 demonstrations
 - Use Q/D (emissions/distance) screening criterion, threshold-based monitored concentrations and evidence of transport to and influence at the monitor
 - Tier 3 demonstrations
 - Apply when the relationship between the subject fires and influenced O₃ concentrations is more complicated
 - Build upon tiers 1 and 2
- Appropriate tier to be determined by affected air agency and reviewing EPA regional office during proposed “Initial Notification” process

EXCEPTIONAL EVENTS

■ 94 Total Commenters on Rule Revisions

- 36 – State/Local Agencies
- 2 - Tribal Organizations
- 20 – National/Regional Planning Organizations
- 8 – Environmental Groups
- 4 – Elected Officials
- 24 – Industry/Trade Associations

■ General Themes

- Overall, feedback was specific and constructive and addressed the issues on which we requested comment.
- States/Industry generally supportive of streamlining efforts and asked for additional measures to improve efficiency. Environmental community not supportive of majority of proposed revisions.
- 56 commenters included some discussion of fire-related issues/proposals

EXCEPTIONAL EVENTS

■ Specific Comments

■ States/Industry generally support:

- Restructuring 6 criteria in 2007 Rule to 3 (includes removing “but for”)
- Presumption that event-related emissions originating outside of jurisdiction are not reasonably controllable or preventable
- Relying on EPA-approved attainment/maintenance SIPs to satisfy not reasonably controllable or preventable
- Removing flagging and demonstration submittal deadlines
- Clarification regarding components of a demonstration package

■ States/Industry generally do not support:

- Allowing Federal Land Managers to submit demonstrations
- Not relying on infrastructure SIPs to satisfy not reasonably controllable or preventable
- Using Air Quality Control Region boundaries to define the bounds for an area subject to event recurrence
- General timelines for EPA response (prefer promulgated timelines)
- Lack of a formal dispute resolution process

EXCEPTIONAL EVENTS

- 31 Total Commenters on Draft Wildfire/Ozone Guidance Document
 - 13 – State/Local Agencies
 - 6 – National/Regional Planning Organizations
 - 3 – Environmental Groups
 - 1 – Elected Officials
 - 8 – Industry/Trade Associations
- General Themes
 - Commenters generally support tiering concept, but believe identified approach is too restrictive.
 - Commenters do not fully support the Q/D methodology proposed as a key factor for defining a Tier 2 demonstration. Commenters note the difficulty in calculating Q/D and the limitations of identified tools (e.g., SMARTFIRE/BlueSky).
 - Commenters ask for prescribed fire guidance.

EXCEPTIONAL EVENTS UPDATES

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Air Quality Policy Division, OAQPS - U.S. EPA
NACAA Fall Meeting
October 2016



Exceptional Events

- Exceptional Events Rule Revisions and Wildfire Guidance Development
 - November 20, 2015 – publication of proposed rule in in Federal Register (80 FR 72840)
 - December 8, 2015 – public hearing in Phoenix, Arizona
 - February 3, 2016 – close of comment period
 - September 30, 2016 – final EE Rule effective date
 - October 3, 2016 – publication in the Federal Register (81 FR 68216)
- Communication and Outreach
 - Ongoing development of exceptional events tools (e.g., website, templates)
 - Implementation workshops for states and tribes upcoming in November 2016
 - Denver – November 8
 - Dallas – November 30



General Exceptional Events Rule Background

- Applies to all criteria pollutants and NAAQS and all event types to which the rule applies
- Applies to all state air agencies, to (delegated) local air agencies, to tribal air agencies that operate air quality monitors that produce regulatory data and to federal land managers/federal agencies if agreed by the state
- Establishes procedures and criteria for identifying and evaluating air quality monitoring data affected by exceptional events
- Provides a mechanism by which air quality data can be excluded from regulatory decisions and actions
- Affects design value calculations, NAAQS designation decisions, attainment determinations, and State / Tribal / Federal Implementation Plan (SIP/FIP/TIP) development



Final Exceptional Events Rule Revisions

(Note: changes from proposal indicated by underline)

- Clarify the types of determinations and actions to which the authorizing statutory authority in Clean Air Act (CAA) section 319(b) applies
 - Designations / Redesignations
 - Classifications
 - Attainment determinations (including clean data determinations)
 - Attainment date extensions
 - Findings of SIP inadequacy leading to SIP call
 - Other actions on a case-by-case basis
- Return to the core statutory elements of CAA section 319(b)
 - The event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation (as supported by a comparison of the claimed event-influenced concentration(s) to concentrations at the same monitoring site at other times);
 - The event was not reasonably controllable and the event was not reasonably preventable; and
 - The event was a human activity that is unlikely to recur at a particular location or was a natural event.



Final Exceptional Events Rule Revisions (Cont'd)

- Clarify “not reasonably controllable or preventable” criteria
 - Clarify that “controllable” and “preventable” are separate tests
 - Rely on pollutant-relevant controls in attainment/maintenance SIP/FIP/TIPs approved within 5 years of the date of the event
 - Indicate that air agencies generally have no obligation to specifically address controls for emissions originating outside their jurisdictional (*i.e.*, state/tribal/international) border(s)
- Clarify high wind elements currently addressed in guidance
 - Include provisions for the high wind threshold
 - Include provisions and criteria for “extreme” events
- Codify requirements for the content and organization of exceptional events submittals
 - Make initial notification by the state to the EPA of a potential exceptional event a required (but waivable) preliminary step before submitting a demonstration (based on best practices)
 - Include narrative conceptual model
 - Address 3 core statutory elements (*i.e.*, clear causal relationship supported by comparison to historical concentrations, human activity unlikely to recur/natural event, not reasonably controllable or preventable)
 - Include documentation that public comment process was conducted



Final Exceptional Events Rule Revisions (Cont'd)

- Remove “general schedule” deadlines for data flagging and demonstration submittal
- New fire-related rule language and preamble text
 - Clarify that all wildfires on wildland are natural events
 - Clarify that prescribed fire is a human-caused event eligible for treatment as an exceptional event and provide a streamlined path to show how air agencies can satisfy rule criteria
 - Rely on land/resource management plans (for frequency of recurrence and for “not reasonably preventable”)
 - Identify recommended components of Smoke Management Programs (in preamble) and Basic Smoke Management Practices (BSMP) (in rule text)
 - Require land managers, burn managers and air agencies to collaborate regarding the process by which the agencies will work together to include general expectations for selection and application of appropriate BSMP (2-year phase in period)
 - Define fire-related terms in regulatory language (prescribed fire, wildfire, wildland)



Final Exceptional Events Rule Revisions (Cont'd)

■ Mitigation Regulatory Requirements

- Preamble identifies areas with recurring events (generally three events in a 3-year time period, which for final rule purposes was 1/1/13 – 12/31/15)
- Requires development of mitigation plan (elements are specified) to be prepared and submitted for EPA's review
- Identified areas have 2 years from the effective date of the rule to submit after which time the EPA will not concur with demonstrations for events that are the focus of the mitigation plan

■ Other provisions

- Address who may submit a demonstration
 - States and Tribes operating monitors that produce regulatory data
 - Local agencies with delegated responsibility for air quality management
 - Federal land managers with the concurrence of the affected air agency
- Event aggregation
- Preamble includes intended timelines for EPA response



Exceptional Events Schedule in 2015 Ozone NAAQS

- Developed flagging and demonstration submission rule language that specifies the schedule that would apply to any future NAAQS revision. (Dates are calculated based on the promulgation date of the NAAQS.)
- Promulgated schedule splits available time between the air agencies and the EPA and ensures that EPA has time to assess any exceptional events demonstrations that would substantively affect initial area designations
- For the 2015 Ozone NAAQS, the relevant data years include:
 - 2014-2016 for ozone designations promulgated in October 2017 (CAA 2-year schedule)
 - 2017 data - only if designations are completed under a 3-year schedule
- 2015 Ozone NAAQS established demonstration submission deadlines as follows:
 - November 29, 2016 (for 2013 - 2015 data)
 - May 31, 2017 (for 2016 data)
 - May 31, 2018 (for 2017 data)
- The final Exceptional Events Rule revisions retain the same schedule that we promulgated in the 2015 Ozone NAAQS, but extend by 60 days to November 29 the demonstration submission schedule for demonstrations for 2013-2015



Final Wildfire/Ozone Exceptional Events Implementation Guidance

- Full document name: *Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations*
- What does the final guidance do?
 - Incorporates and applies the Exceptional Events Rule revisions to wildfire/ozone events
 - Provides example analyses, conclusion statements, and technical tools that air agencies can use to provide evidence that the wildfire event influenced the monitored ozone concentration



Final Wildfire/Ozone Exceptional Events Implementation Guidance

- Uses a tiered approach for analyses to support the clear causal relationship criterion
 - Tier 1 clear causal analyses
 - Appropriate when wildfire influences on ozone concentrations are clearly higher than non-event-related concentrations or occur outside of the area's normal photochemical ozone season
 - Use time series plots and evidence of transport to the monitor
 - Tier 2 clear causal analyses
 - Appropriate when the influences of the wildfire on ozone levels are higher than non-event-related concentrations and when fire emissions compared to the distance of the fire from the affected monitor indicate a clear causal relationship
 - Use Q/D (emissions/distance) screening criterion, threshold-based monitored concentrations and evidence of transport to and influence at the monitor
 - Tier 3 clear causal analyses
 - Appropriate when Tier 1 or Tier 2 analyses are not conclusive
 - Additional analyses that supplement Tier 1 and Tier 2 analyses
- Appropriate tier to be determined by the EPA Regional office with the affected air agency during the “Initial Notification” discussions



Final Wildfire/Ozone Exceptional Events Implementation Guidance

- Tier 2 Key Factors
 - Q/D greater than or equal to 100 tons per day/kilometer
 - The guidance provides a detailed explanation of calculating emissions over distance
 - The guidance provides an example of how to aggregate multiple individual fires
 - A comparison to non-event related high ozone concentrations
 - The event is in the 99th or higher percentile of the 5-year distribution of ozone monitoring data, OR
 - Is one of the four highest ozone concentrations within 1 year (among those concentrations that have not already been excluded under the Exceptional Events Rule, if any)



Available Resources

- Exceptional Events Website at <http://www2.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>
 - Select “Exceptional Events Rule and Guidance” link on main page
 - Documents page contains:
 - Link to final rule
 - Final wildfire/ozone guidance
 - Response to comments document
 - Fact sheets
 - 2015 proposed rule documents
 - 2013 interim guidance documents
- EPA Regional office staff and/or EPA Office of Air Quality Planning and Standards staff
 - Beth Palma (palma.elizabeth@epa.gov)
 - Lev Gabrilovich (gabrilovich.lev@epa.gov)
 - Mark Evangelista (evangelista.mark@epa.gov)



Questions and Comments



COMPONENTS OF A SUCCESSFUL EXCEPTIONAL EVENTS DEMONSTRATION

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NACAA Spring Meeting
May 2, 2017



Exceptional Events

- On September 16, 2016, the EPA finalized the **2016 Revisions to the Exceptional Events Rule**, which address issues raised by stakeholders to reduce unnecessary burden and increase the administrative efficiency of the exceptional events demonstration process
 - Overarching goal was to improve the demonstration development and review process by improving communications, providing recommendations for demonstration narrative and analyses to include in demonstration packages, providing needed clarity in the rule and increasing administrative efficiency of demonstration submittal process
 - <https://www.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>
 - Rule effective date was September 30, 2016
 - Published in Federal Register on October 3, 2016 (81 FR 68216)
 - NRDC/Sierra Club filed a Petition for Review on December 2, 2016 (petitioners' brief due 5/17/17, EPA response due 8/17/17)
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 - Establishes procedures and criteria for identifying and evaluating air quality monitoring data affected by exceptional events
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 - Applies to all state air agencies, to (delegated) local air agencies, to tribal air agencies that operate air quality monitors that produce regulatory data and to federal land managers/federal agencies if agreed by the state
 - Affects design value calculations, NAAQS designation decisions, attainment determinations, and State/Tribal/ Federal Implementation Plan (SIP/FIP/TIP) development



Exceptional Events Rule Revisions

- Clarify the types of determinations and actions to which the authorizing statutory authority in Clean Air Act (CAA) section 319(b) applies
- Return to the core statutory elements of CAA section 319(b)
- Clarify “not reasonably controllable or preventable” criterion
- Clarify high wind elements initially addressed in 2013 guidance
- Codify requirements for the content and organization of exceptional events demonstrations
- Remove “general schedule” deadlines for data flagging and demonstration submittal
- Include fire-related rule language and preamble text
- Include regulatory requirements for mitigation
- Include other provisions



Components of an Exceptional Events Demonstration

- Codify requirements for the content and organization of exceptional events demonstrations (*40 CFR 50.14(c)(3)(iv) and (v)*)
 - Narrative conceptual model
 - Demonstration of clear causal relationship (including analyses comparing the claimed event-influenced concentration to historical concentrations)
 - Demonstration that the event was not reasonably controllable and not reasonably preventable
 - Demonstration that the event was a human activity unlikely to recur at a particular location or was a natural event
 - Documentation that the public comment process was followed:
 - 30-day public comment period
 - Submission of public comments
 - Address comments disputing or contradicting factual evidence in the demonstration



Components of an Exceptional Events Demonstration

- Return to the core statutory elements of CAA section 319(b)
 - The event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation
 - The event was caused by human activity that is unlikely to recur at a particular location or was a natural event
 - The event was not reasonably controllable or preventable
- Recommended order of analyses within a demonstration
 - Natural events – clear causal, human activity/natural event, not reasonably controllable/preventable
 - Human activities unlikely to recur (particularly high wind dust events) - not reasonably controllable/preventable, clear causal, human activity/natural event



Clear Causal Relationship

The event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation.

- Weight of evidence analyses
- Rule language for natural events
 - Wildfires on wildland, stratospheric ozone intrusions
 - Volcanos (no specific regulatory language)
- Components of the clear causal relationship demonstration
 - Analyses that the event occurred
 - Analyses showing that the event-related emissions/pollutant were transported to the monitor(s) recording the elevated concentration(s)
 - Analyses showing that the event-related emissions/pollutant reached ground level



Clear Causal Relationship

- Analyses that the event occurred
 - Comparison to historical concentrations (example analyses in rule preamble)
 - Occurrence and geographic extent of the event (news statements, advisories, satellite imagery, etc)
- Analyses showing that the event-related emissions/pollutant were transported to the monitor(s) recording the elevated concentration(s)
 - Satellite imagery
 - Back/forward trajectories
 - Directional wind data
- Analyses showing that the event-related emissions/pollutant reached ground level
 - Speciation data at the monitor (or at regional monitors)
 - Spatial extent maps comparing event days and non-event days



Human Activity Unlikely to Recur or a Natural Event

The event was caused by human activity that is unlikely to recur at a particular location or was a natural event.

- Natural Events
 - *Natural event* means an event and its resulting emissions, which may recur at the same location, in which human activity plays little or no direct causal role. For purposes of the definition of a natural event, anthropogenic sources that are reasonably controlled shall be considered to not play a direct role in causing emissions. (40 CFR 50.1(k))
 - Recognized natural events (81 FR 68232): wildfires, stratospheric ozone intrusions, volcanic and seismic activity, natural disasters, and windblown dust from natural, undisturbed landscapes
 - Natural events can recur



Human Activity Unlikely to Recur or a Natural Event

The event was caused by human activity that is unlikely to recur at a particular location or was a natural event.

- Human activity that is unlikely to recur at a particular location
 - Unlikely to recur
 - Benchmark of three events in 3 years: same event type generating emissions of the same pollutant in the 3 years prior to the date of the event in question
 - A single discrete event is one occurrence even if it extends over more than one day
 - Particular location
 - Definition may vary depending on the specifics of the area
 - Air agencies and EPA Regional offices should proactively discuss what a “particular location” means



Not Reasonably Controllable or Preventable

The event was not reasonably controllable or preventable

- Not reasonably controllable
 - Reasonable measures to control the impact of the event on air quality were applied at the time of the event
- Not reasonably preventable
 - Reasonable measures to prevent the event were applied at the time of the event
- Case specific approach evaluated in light of information available as of the date of the event



Not Reasonably Controllable or Preventable

- Regulatory presumptions for not reasonably controllable or preventable in certain situations
 - The emissions generating activity is beyond the jurisdictional boundaries of the state submitting the demonstration [50.14(b)(8)(vii)]
 - The emissions generating activity is a natural event and all anthropogenic contributors are reasonably controlled
 - Wildfires on wildland [50.14(b)(4)]
 - Large-scale, high-energy high wind dust events [50.14(b)(5)(vi)]
 - Stratospheric ozone intrusions [50.14(b)(6)]
 - Deference to measures in a nonattainment or maintenance SIP/FIP/TIP approved within 5 years of the date of the event [50.14(b)(8)(v)]
- If applicable, demonstrations should point to the specific regulatory presumption



Not Reasonably Controllable or Preventable

- Analyses to address other/non-natural sources that could potentially contribute to event-related emissions
 - Identify the natural and anthropogenic sources of emissions causing and contributing to the monitored exceedance or violation, including the contribution from local sources
 - Identify the relevant SIP, FIP or TIP or other enforceable control measures in place for these sources and the implementation status of these controls
 - Provide evidence of effective implementation and enforcement of reasonable controls, if applicable.



Exceptional Events Implementation: Next Steps

- The 2016 rule revisions and final wildfire/ozone guidance were needed first steps, but efficient and coordinated implementation is critical. November 2016 workshops were an important step in successful implementation (*i.e.*, to make sure that EPA Headquarters, EPA Regional offices, and states/locals/tribes are on same page).
- What is next?
- Additional Implementation Materials
 - Revisions to 2013 *Interim Exceptional Events Guidance Documents*
 - Stratospheric Ozone Intrusion Document
 - Alternate Paths for Data Exclusion Document
 - Prescribed Fire/Ozone Document
- Continued development of exceptional events tools
 - Templates
 - Website updates
 - AQS modifications to reflect rule revisions guided by feedback from newly created AQS workgroup
 - Standardized metrics and tracking
 - Targeted efforts with FLMs – communications and tools
 - Best practices for multi-state exceptional events demonstrations



Questions and Comments



NAAQS AND OTHER IMPLEMENTATION AND TECHNICAL UPDATES

Anna Marie Wood and Richard “Chet” Wayland, Directors
Air Quality Policy Division and Air Quality Assessment Division, U.S. EPA
2016 CenSARA Fall Business Meeting
Draft as of Sept 28, 2016



OVERVIEW

- NAAQS and Other Implementation Updates
 - Ozone NAAQS Implementation
 - Exceptional Events Rule and Guidance
 - Fine Particulate Matter (PM_{2.5}) NAAQS Implementation
 - GHG PSD Program
 - Transport
- Technical Updates
 - Ozone NAAQS and Transport
 - Draft Guidance on SILs for Ozone and PM 2.5 for PSD Program
 - Appendix W
 - Guidance for Modeled Emission Rate for Precursors (MERPS)



2008 Ozone NAAQS Implementation

- Final **Implementation of the 2008 NAAQS for Ozone: State Implementation Plan Requirements Rule** published March 6, 2015 (80 FR 12264)
 - Provides interpretive rules and guidance on nearly all aspects of the attainment planning requirements for designated nonattainment areas
 - Revoked the 1997 NAAQS (effective April 6, 2015) and established anti-backsliding requirements
- Key implementation dates for nonattainment areas:
 - Emissions inventories, emissions statement rules and RACT SIPs due July 2014
 - Attainment plans and demonstrations due July 2015 (Moderate) or July 2016 (Serious and above)
 - Marginal area attainment date July 20, 2015 (attainment determined by 2012-2014 air quality data)
 - Moderate area attainment date July 20, 2018 (2015-2017 air quality data)
- Current litigation:
 - South Coast Air Quality Management District and environmental petitioners (Sierra Club *et al.*) challenged various aspects of the 2008 Ozone NAAQS SIP Requirements Rule, including creditability of reasonable further progress (RFP) control measures, revocation of 1997 NAAQS and application of regulatory anti-backsliding requirements (final briefs due late 2016)
 - Environmental petitioners (Center for Biological Diversity *et al.*) filed a complaint to require EPA to issue findings of failure to submit required SIPs and to take final action on the SIPs that were submitted for nonattainment areas and OTR states for the 2008 ozone NAAQS (complaint filed July 21, 2016)



2008 Ozone NAAQS Implementation: Actions for Marginal Nonattainment Areas

- Marginal area attainment date was July 20, 2015
- On April 11, 2016 (81 FR 26697), EPA finalized several actions for 36 Marginal areas under the 2008 ozone NAAQS:
 - Determinations of attainment by the attainment date for 17 areas
 - One-year extensions of the attainment date for 8 areas
 - Reclassification to Moderate due to failure to attain by the attainment date for 11 areas
 - Moderate area SIPs due January 1, 2017
- Attainment date for 8 areas with 1-year extensions was July 20, 2016
 - 6 areas have attained the standards by the extended attainment date
 - 2 areas failed to attain by extended attainment date and will be reclassified to Moderate



Progress on Ozone NAAQS Attainment

(as of June 17, 2016)

	1997 NAAQS (2004 Designations)	2008 NAAQS (2012 Designations)
Initial Nonattainment Areas	115	46
Areas Redesignated to Attainment	80 (prior to revocation)	3
Current Nonattainment Areas	35	43
Clean Data Determinations	26	18*
Proposed Redesignation Substitutes	2	0
Reclassifications to Higher Classification	N/A after revocation	11**

*Includes 17 Marginal area determinations of attainment by the attainment date and 1 Moderate area clean data determination.

**2 additional areas are pending reclassification



2015 Ozone NAAQS

- Final **National Ambient Air Quality Standards for Ozone Rule** signed October 1, 2015 (40 FR 65292), revising the primary and secondary 8-hour ozone standards to 0.070 ppm
- The overall framework and policy approach for the previous implementation rules for the 2008 ozone NAAQS will serve as a template for implementation of the 2015 revised standard
 - Implementing the 2015 Ozone NAAQS Memorandum released October 1, 2015, by Janet McCabe to Regional Administrators https://www.epa.gov/sites/production/files/2015-10/documents/implementation_memo.pdf



Intended Schedule for 2015 Ozone NAAQS Implementation Rules/Guidance/Tools

Action	After NAAQS Promulgation	(Actual) and Planned Dates
EPA finalized 2015 Ozone NAAQS, Monitoring rules, Exceptional Events Demonstration Schedule, and PSD grandfathering.	Upon promulgation	(October 1, 2015)
EPA proposed Exceptional Events Rule revisions and issues draft Wildfire/Ozone Guidance		(November 10, 2015)
EPA issued Area Designations Guidance for the 2015 Ozone NAAQS	4 months	(February 25, 2016)
EPA finalizes Exceptional Events Rule revisions and issues Wildfire/Ozone Guidance		September 2016
States and tribes submit recommendations for ozone area designations to EPA	12 months	October 1, 2016
EPA provides results of interstate ozone transport modeling information	12 months	Fall 2016

Intended Schedule for 2015 Ozone NAAQS Implementation Rules/Guidance/Tools
(table continued)

Action	After NAAQS Promulgation	(Actual) and Planned Dates
EPA proposes nonattainment area SIP rules/guidance (including area classifications thresholds, SIP due dates, and nonattainment NSR provisions)	12 months	October 2016
EPA finalizes designations, classifications, and nonattainment area SIP rules/guidance	24 months	October 2017
States submit infrastructure and transport SIPs	36 months	October 2018
States submit attainment plans	5-6 years	2020-2021
Nonattainment area attainment dates (Marginal – Extreme)	5-22 years	2020-2037

2015 Ozone NAAQS: Upcoming Implementation-Related Rules/Guidance/Activities

- Area designations guidance (including assessing rural transport areas) issued to states in February 2016
 - Ozone Designations Mapping Tool provides access to air quality data, emissions data, and jurisdictional boundaries
 - Can be found at <https://www.epa.gov/ozone-designations/ozone-designations-guidance-and-data>
- Proposed rule to update, where necessary, the existing ozone NAAQS implementation regulations targeted for Fall 2016 (more on next slide); final Fall 2017
- PSD permitting:
 - Final update to Guideline on Air Quality Models (Appendix W to 40 CFR Part 51) (Fall 2016)
 - Guidance on compliance demonstration tools:
 - Ozone and PM_{2.5} significant impact levels (SILs) (comment period closed September 30, 2016)
 - Model emissions rates for precursors (MERPs) (Fall 2016)
- Update to transportation conformity guidance specific to nonattainment areas for 2015 NAAQS (Fall 2017)



Key Issues to be Addressed in 2015 Ozone NAAQS SIP Requirements NPRM

1. Nonattainment area classification thresholds
2. RFP – milestone compliance demonstrations
3. RACT – submission and implementation deadlines
4. Attainment plans – consideration of sources of intrastate transport
5. NNSR – interprecursor trading
6. CAA section 179B on international emissions impacts
7. Revocation of the 2008 ozone NAAQS



2015 Ozone NAAQS: Anticipated Timeline for Designations Process

Milestone	Date
The EPA promulgates 2015 Ozone NAAQS rule	October 1, 2015
The EPA issues designations guidance	February 25, 2016
States and tribes submit recommendations for ozone designations to EPA	No later than October 1, 2016
Air agencies submit exceptional events demonstrations for data years 2014-2015	No later than the later of November 29, 2016 or the date that recommendations are due to EPA
The EPA notifies states and tribes concerning any intended modifications to their recommendations (120-day letters)	No later than June 2, 2017 (120 days prior to final ozone area designations)
The EPA publishes public notice of state and tribal recommendations and the EPA's intended modifications, if any, and initiates 30-day public comment period	On or about June 9, 2017
End of 30-day public comment period	On or about July 10, 2017
States and tribes submit additional information, if any, to respond to the EPA's modification of a recommended designation	No later than August 7, 2017
The EPA promulgates final ozone area designations	No later than October 1, 2017



Background Ozone

- EPA discussed and characterized background ozone issues in several documents:
 - Proposed and final 2015 Ozone NAAQS preambles
 - 2015 Ozone Implementation Memo from Janet McCabe to EPA Regional Administrators (October 1, 2015)
 - Background Ozone White Paper (December 30, 2015)
- To seek input from air agencies and other interested stakeholders, EPA held a workshop on background ozone and solicited written comments through March 31, 2016
 - Workshop held February 24-25, 2016
 - Docket for workshop materials and written comments EPA-HQ-OAR-2016-0097
- For more information visit https://www.epa.gov/sites/production/files/2015-10/documents/implementation_memo.pdf and <https://www.epa.gov/ozone-pollution/background-ozone-workshop-and-information>



Exceptional Events

- On September 16, 2016, the EPA finalized the **2016 Revisions to the Exceptional Events Rule**, which address issues raised by stakeholders and increase the administrative efficiency of the rule process
 - <https://www.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>
 - September 30, 2016 - Rule effective date
 - October 3, 2016 – Publication in the Federal Register
- General Elements of the Exceptional Events Rule
 - Applies to all criteria pollutants and NAAQS and all event types
 - Applies to all state air agencies, to (delegated) local air agencies, to tribal air agencies that operate air quality monitors that produce regulatory data and to federal land managers/federal agencies if agreed by the state
 - Establishes procedures and criteria for identifying and evaluating air quality monitoring data affected by exceptional events
 - Provides a mechanism by which air quality data can be excluded from regulatory decisions and actions
 - Affects design value calculations, NAAQS designation decisions, attainment determinations, and State / Tribal / Federal Implementation Plan development



Final Exceptional Events Rule Revisions

- Clarify the types of determinations and actions to which the authorizing statutory authority in CAA section 319(b) applies
 - Designations/redesignations, classifications, attainment determinations (including clean data determinations), attainment date extensions, findings of SIP inadequacy leading to SIP call, other actions on a case-by-case basis
- Return to the core statutory elements of CAA section 319(b)
- Clarify “not reasonably controllable or preventable” criteria
 - “Controllable” and “preventable” are separate tests
 - Rely on pollutant-relevant controls in attainment/maintenance SIP/FIP/TIPs approved within 5 years of the date of the event
 - Indicate that air agencies generally have no obligation to specifically address controls for emissions originating outside their jurisdictional (i.e., state/tribal/international) border(s)



Exceptional Events

- Clarify high wind elements currently addressed in guidance, such as provisions for the high wind threshold and criteria for “extreme” events
- Codify requirements for the content and organization of exceptional events submittals
- Remove “general schedule” deadlines for data flagging and demonstration submittal
- Include new fire-related rule language and preamble text
 - Clarify that all wildfires on wildland are natural events
 - Clarify that prescribed fire is a human-caused event eligible for treatment as an exceptional event and finalize a streamlined path to show how air agencies can satisfy rule criteria
- Include requirements to develop mitigation plans in areas with recurring events
- The effective date of the rule is September 30, 2016



Exceptional Events: Wildfire/Ozone Guidance

- Along with the Revisions to the Exceptional Events, the EPA issued the final version of the non-binding guidance document, ***Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations***
- Incorporates and applies the Exceptional Events Rule revisions to wildfire/ozone events
- Provides example analyses, conclusion statements, and technical tools that air agencies can use to provide evidence that the wildfire event influenced the monitored ozone concentration
- Uses a tiered approach for analyses to support the clear causal relationship criterion



PM_{2.5} NAAQS Implementation: SIP Requirements Rule

- **Final Air Quality State Implementation Plans; Approvals and Promulgations: Fine Particulate Matter National Ambient Air Quality Standards Rule** published on August 24, 2016 (81 FR 58010)
- Provides the framework for planning requirements for 2012 and future PM_{2.5} NAAQS, and will inform implementation for areas still violating 1997 and/or 2006 PM_{2.5} NAAQS
- Addresses the January 2013 DC Circuit Court remand (*NRDC v. EPA*) of the 2007 PM_{2.5} implementation rule and nonattainment portions of the 2008 NSR rule for PM_{2.5} which held that EPA must implement PM_{2.5} NAAQS under subpart 4 (CAA 188-190) and presumptively required to address all PM_{2.5} precursors (SO₂, NO_x, VOC, ammonia) in SIPs



PM_{2.5} NAAQS Implementation: SIP Requirements Rule

- Final rule addresses all aspects of implementation for Moderate and Serious areas:
 - Emission inventories
 - Control measure evaluations [e.g. reasonably available control measures (RACM), best available control measures (BACM), most stringent measures (MSM)]
 - Attainment demonstration and modeling
 - Reasonable further progress and quantitative milestones
 - Contingency measures
 - Discretionary and mandatory reclassifications
 - Attainment date extension criteria
 - Nonattainment New Source Review requirements
 - Precursor policies (regarding demonstrations to show a precursor has an insignificant contribution to PM_{2.5} levels)
- EPA expects to issue “PM_{2.5} Precursor Demonstration Guidance” recommending technical approaches for conducting precursor demonstrations in nonattainment areas to assess whether a particular air quality concentration threshold can be considered to be insignificant in a given area later this year.



1997 and 2006 PM_{2.5} NAAQS Implementation

- Identification of Nonattainment Classification and Deadlines for Submission of State Implementation Plan Provisions for the 1997 Fine Particle (PM_{2.5}) NAAQS and 2006 PM_{2.5} NAAQS Rule issued June 2, 2014 (79 FR 31566) clarified that all nonattainment areas at the time were Moderate and set a deadline of December 31, 2014, for states to provide revised SIP submissions as necessary to meet subpart
 - Rule was upheld in D.C. Circuit Court decision *WildEarth Guardians v. EPA*, No. 14-1145, July 29, 2016
- 2006 PM_{2.5} NAAQS Moderate area attainment date was December 31, 2015
 - EPA preparing to issue determinations of attainment/failure to attain by the attainment date based on 2013-15 air quality data
 - Areas that failed to attain by the attainment date will be reclassified to Serious by operation of law and will need to submit a revised SIP within 18 months that includes “best” controls



PM_{2.5} NAAQS Implementation

- On June 2, 2016, the US District Court for the Northern District of California agreed to a consent decree settlement for *Center for Biological Diversity, Center for Environmental Health, and Neighbors for Clean Air v. EPA* to issue final action on certain states' attainment plans, NNSR plans, infrastructure SIPs, and/or findings of failure to submit
 - Approved consent decree established dates (through May 2017) for EPA to take final action on state submissions and/or for states to make overdue submissions (affects 6 states: AZ, CA, ID, MT, OR, UT)



PM_{2.5} NAAQS Implementation (con't)

- On July 1, 2016, the Center for Biological Diversity and the Center for Environmental Health submitted a 60-day NOI to file suit against EPA for its failure to perform several duties related to PM_{2.5} SIPs in the following categories:
 - PM_{2.5} Increments
 - Interstate transport SIPs for 2012 PM_{2.5} NAAQS
 - 2006 PM_{2.5} NAAQS determinations of attainment and reclassifications for certain areas
 - 1997 and 2006 PM_{2.5} Infrastructure SIPs



Progress on PM_{2.5} NAAQS Attainment

(as of August 16, 2016)

	1997 PM _{2.5} (2005 Designations)	2006 PM _{2.5} (2009 Designations)	2012 PM _{2.5} (2015 Designations)
Initial Nonattainment Areas	39	32	9
Areas Redesignated to Attainment	32	16	0
Current Nonattainment Areas	7	16	9
Clean Data Determinations	5	8	0
Proposed Redesignations	0	0	0



Regulatory Updates for GHG Permitting

- In April 2015, EPA issued a final rulemaking revising EPA's PSD regulations to enable the EPA to rescind EPA-issued PSD permits for GHG
 - Direct Final (80 FR 26183); Parallel Proposal (80 FR 26210)
- In August 2015, EPA issued a final rulemaking to remove certain provisions from PSD and title V that were vacated as part of the D.C. Circuit Court's April 2015 Amended Judgment (80 FR 50199)
- EPA signed a proposed rule to establish a significant emissions rate for GHGs under the PSD program on August 26, 2016
 - Rule also proposes the remaining changes to PSD and title V that are necessary to fully implement the D.C. Circuit Court's April 2015 amended judgment
 - There will be a 60 day public comment period following publication



Status of Transport Rule Efforts

- Status of the Cross-State Air Pollution Rule (CSAPR)
 - EPA began implementation of this rule on January 1, 2015. It addresses interstate transport obligations for the 1997 ozone, 1997 PM_{2.5} and 2006 PM_{2.5} NAAQS
 - On July 28, 2015, the D.C. Circuit issued its opinion on the remaining issues raised with respect to CSAPR. While the rule was largely upheld, the budgets for some states were remanded.
- On September 7, 2016, EPA finalized an update to the CSAPR ozone season program by addressing the CSAPR Update
 - This rule addresses interstate transport of ozone pollution with respect to the 2008 ozone NAAQS
 - In 2017, this rule will reduce summertime emissions of NO_x from power plants in 22 states in the eastern half of the U.S.
 - The final rule reflects stakeholder input received during the public comment process and also responds to the July 2015 remand of certain CSAPR budgets by the U.S. Court of Appeals for the D.C. Circuit.
 - Additional information at <http://www.epa.gov/airmarkets/final-cross-state-air-pollution-rule-update>



Interstate Transport: CAA Sections 126 and 176A

- EPA is reviewing four CAA section 126 petitions for various NAAQS
 - As provided for under the CAA, EPA recently extended the deadlines for EPA's response to the petitions
- EPA also has a pending CAA 176A petition from several Northeastern states to add additional states to the Ozone Transport Region
 - EPA was sued for failure to timely act on the petition
 - EPA is considering the appropriate response for this petition





Technical Updates

Richard “Chet” Wayland



Federal/State Technical Air Quality Collaboration Workgroup

- Provides a forum for discussing technical work by states, MJOs/RPOs, and EPA related to air quality modeling for ozone, PM_{2.5}, and Regional Haze
- Topics include the use of models, modeling inputs and pre-and post-processors and data sharing
- Objectives of collaboration
 - (1) Efficient use of resources
 - (2) Transparency regarding technical data, analyses, tools, and techniques
 - (3) Development of technically credible products



June 20/21 Meeting Topics

- Near-term technical work and data related to transport for the 2015 ozone NAAQS and Regional Haze SIPs and longer-term work and potential coordination processes
 - Base and future year emissions platforms for near-term regulatory modeling
 - Coordinating EGU projections (IPM/ERTAC)
 - Potential improvements to non-EGU stationary source emissions, projections, and control data
 - Improved efficiency in running MOVES
 - Global modeling to provide estimates of intercontinental transport
 - Model evaluation
 - Avenues for sharing data



Current Collaboration Priorities

- MJO/state review/update of non-EGU point source control data for 2014 NEI and future year projections/controls
- Coordinating EGU projections (IPM/ERTAC)
- Updates to projections of emissions from oil and gas sector



Air Quality Modeling for Transport

- Purpose: Via a NODA, provide transport data that states can use in developing 110 SIPs and provide an opportunity for public comment on the transport data that EPA may use in future actions to address transport for the 2015 NAAQS.
- Choice of modeling platform for NODA
 - Two options were considered: a 2011-based platform and a 2014-based platform.
 - Considerations:
 - Emissions: EPA/stakeholders have already reviewed/revised 2011 emissions as part of previous NODAs and the CSAPR Update Rule, whereas the first draft of the 2014 NEI was just recently released.
 - Meteorology: 2011 meteorology was generally favorable for ozone formation in most areas of the US, whereas meteorology in 2013 thru 2015, especially in 2014, was unfavorable for ozone formation in much of the East.
 - At a meeting with MJOs/states in June, we received strong support for using a 2011-based modeling platform for the 2015 ozone NODA transport modeling because of these emissions and meteorological considerations.



Air Quality Transport Modeling (cont.)

- Analytic year for 2015 ozone NAAQS – 2023
 - 2023 is the attainment year for moderate nonattainment areas.
- NODA will include:
 - Design values projected to 2023 for individual sites; nationwide.
 - Identify nonattainment and maintenance receptors.
 - Contributions from 2023 emissions in each state to receptors; nationwide.
 - Identify “linkages” using 1% threshold (CSAPR framework).
 - Detailed modeling data needed to project design values and to calculate contributions.
- Timing of NODA – Late November/early December 2016



Regional Haze Air Quality Modeling

- EPA is planning to model a 2028 future year for the purpose of providing updated regional haze visibility impairment information for use by EPA and states.
- The regional haze modeling will be complete in early 2017.
- The modeling will be based on the 2011 base case modeling platform with a 2028 future case, as well as nationwide sector based PM source apportionment modeling (CAMx PSAT) for 2028.
- EPA sent a preliminary list of emissions sectors for the regional haze source apportionment modeling to the Federal/State Technical Air Quality Collaboration Workgroup on August 30th.
 - Please send any comments on the sector definitions by September 20



Sector Description	Sector Abbreviation	Notes
Area source fugitive dust	afdust	primary PM only
Agriculture	ag	ammonia only
Biogenics (Vegetation)	biogenics	
Commerical Marine Vessels	cmv	Onshore port and underway emissions assigned to specific states
Non-point	nonpt	Area sources that are not O&G
Onroad mobile	onroad	
Nonroad mobile	nonroad	
Nonpoint oil and gas	npoilgas	
Point oil and gas	pt_oilgas	
EGUs	ptegu	
Fires	ptfire + agfire	Wild, prescribed, and agricultural fires (US, Mexico, and Canada)
Point non-EGU sources	ptnonipm	All NonEGU point that are not O&G
Rail	rail	
Residential Wood Combustion	rwc	
Canada and Mexico	othafdust_adj + othar + othon + othpt	All anthropogenic emissions from Canada and Mexico
Offshore	part of othpt	Offshore CMV and Gulf oil and gas platform emissions
Initial and Boundary Conditions		PM coming into the modeling domain from GEOSCHEM derived boundary conditions



Review of Recent EPA Activities Related to Background Ozone

- EPA recognizes that, periodically, sources other than domestic manmade emissions of ozone precursors can contribute appreciably to monitored ozone (O₃) concentrations.
- These “background ozone” (BGO₃) contributions may in limited instances have implications for implementation and eventual attainment of the new O₃ standard, although there is no indication that background O₃ alone will prevent attainment of the new standard.
 - EPA brief was filed on July 29th in *Murray Energy Corporation v. U.S. EPA*.
- Since promulgation of the new NAAQS, as part of outreach efforts with stakeholders regarding BGO₃ issues in the implementation process, EPA has:
 - Developed a BGO₃ white paper: <https://www.epa.gov/sites/production/files/2016-03/documents/whitepaper-bgo3-final.pdf>
 - Organized BGO₃ workshop: <https://www.epa.gov/sites/production/files/2016-03/documents/bgo3-high-level-summary.pdf>
 - Opened a non-regulatory docket to allow additional comments on BGO₃ and NAAQS implementation
 - Organized a July 18th call with WESTAR to discuss action items from WESTAR letter to the docket



Upcoming EPA Actions Related to BGO3

- Coming out of the EPA/WESTAR BGO3 discussions...
 - We are working to develop a collaborative workplan for the next 1-2 years that will focus on continued and improved efforts to characterize BGO3 in the western U.S.
 - Ideally, this effort would include EPA and western States, along with other Federal agencies, academics, and stakeholders (where appropriate).
 - At a minimum, this workplan will include efforts aimed at:
 - global model intercomparison and evaluation,
 - enhanced regional model evaluation, and
 - attribution techniques aimed at estimating the significance of individual BGO3 terms.
 - The initial outputs of the workplan are expected to be discussed at a western air quality workshop in the summer of 2017. This workshop will also serve as a launch pad for needed next-stage analyses.
- At the same time EPA is also planning to...
 - Finalize our guidance on exceptional event demonstrations for stratospheric intrusions
 - Clarify EPA policy with respect to 179B of the Clean Air Act in the proposed implementation rule
 - Work with EPA ORD to make the hemispheric CMAQ model available to States as a tool for the generation of regional boundary conditions.



2015 Design Values: Ozone NAAQS

1-hour NAAQS (124 ppb) – revoked in 2005

- Los Angeles South Coast area continues to violate based on 2013-2015 data

1997 8-hour NAAQS (84 ppb) - revoked 4/6/15

- 5 areas (all in California) continue to violate based on 2013-2015 data

2008 8-hour NAAQS (75 ppb)

- 26 of 46 nonattainment areas met the NAAQS based on 2013-2015 data
- EPA took action on the 36 marginal areas in April 2016:
 - 17 areas met their attainment deadlines of July 2015 based on 2012-2014 data
 - 11 areas did not attain the NAAQS in 2014 and were reclassified as Moderate
 - 8 areas were granted 1-year attainment date extensions

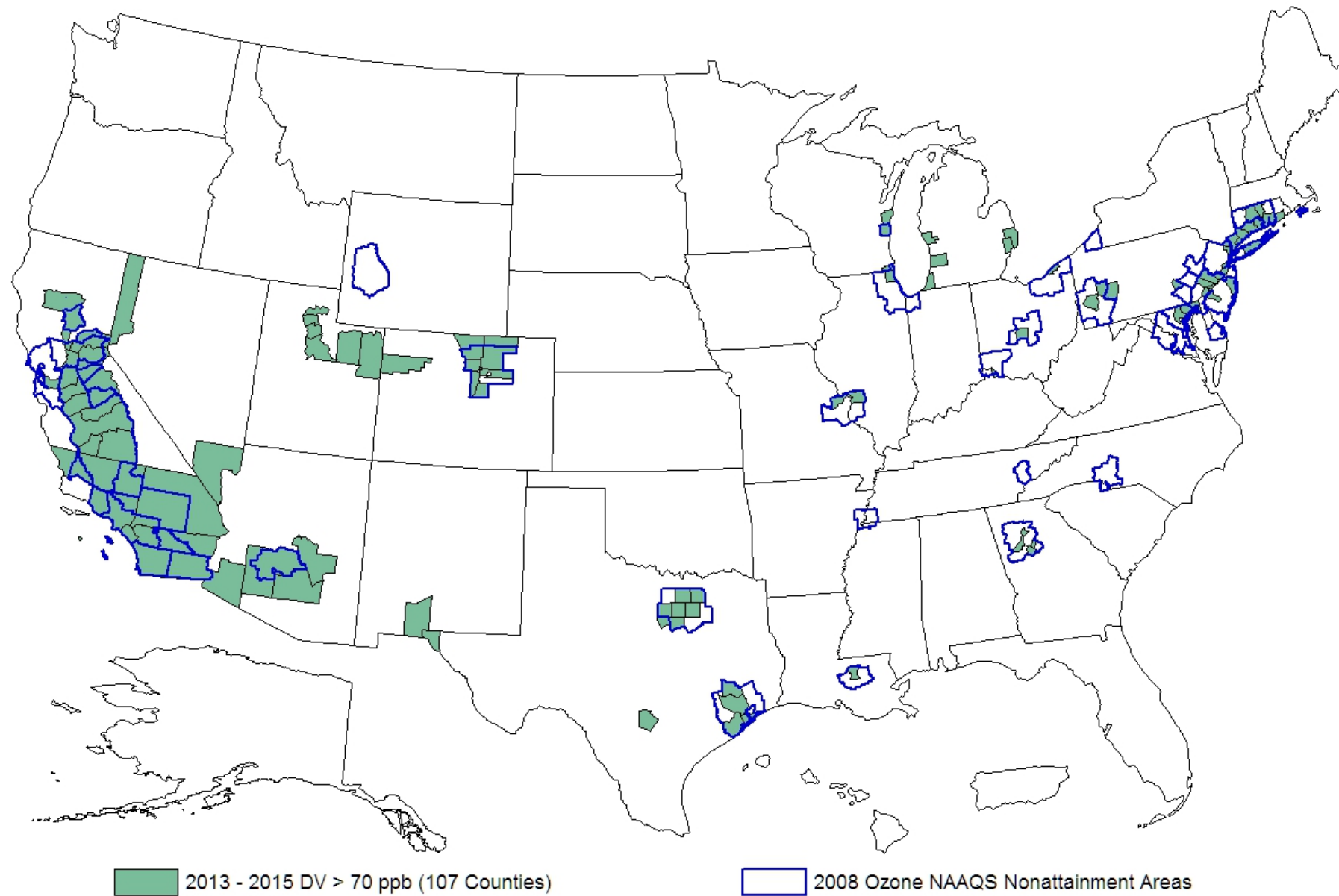
2015 8-hour Ozone NAAQS 70 ppb)

- Designation process currently underway



Ozone 2013-2015 Design Values

Counties with DV > 70 ppb



2015 Design Values: PM_{2.5} NAAQS

2006 24-hour NAAQS (35 µg/m³)

- 24 of the 32 areas originally designated nonattainment are meeting the NAAQS
- 15 counties are violating the NAAQS outside nonattainment areas

1997 Annual NAAQS (15 µg/m³)

- 38 of the 39 areas originally designated nonattainment are meeting the NAAQS

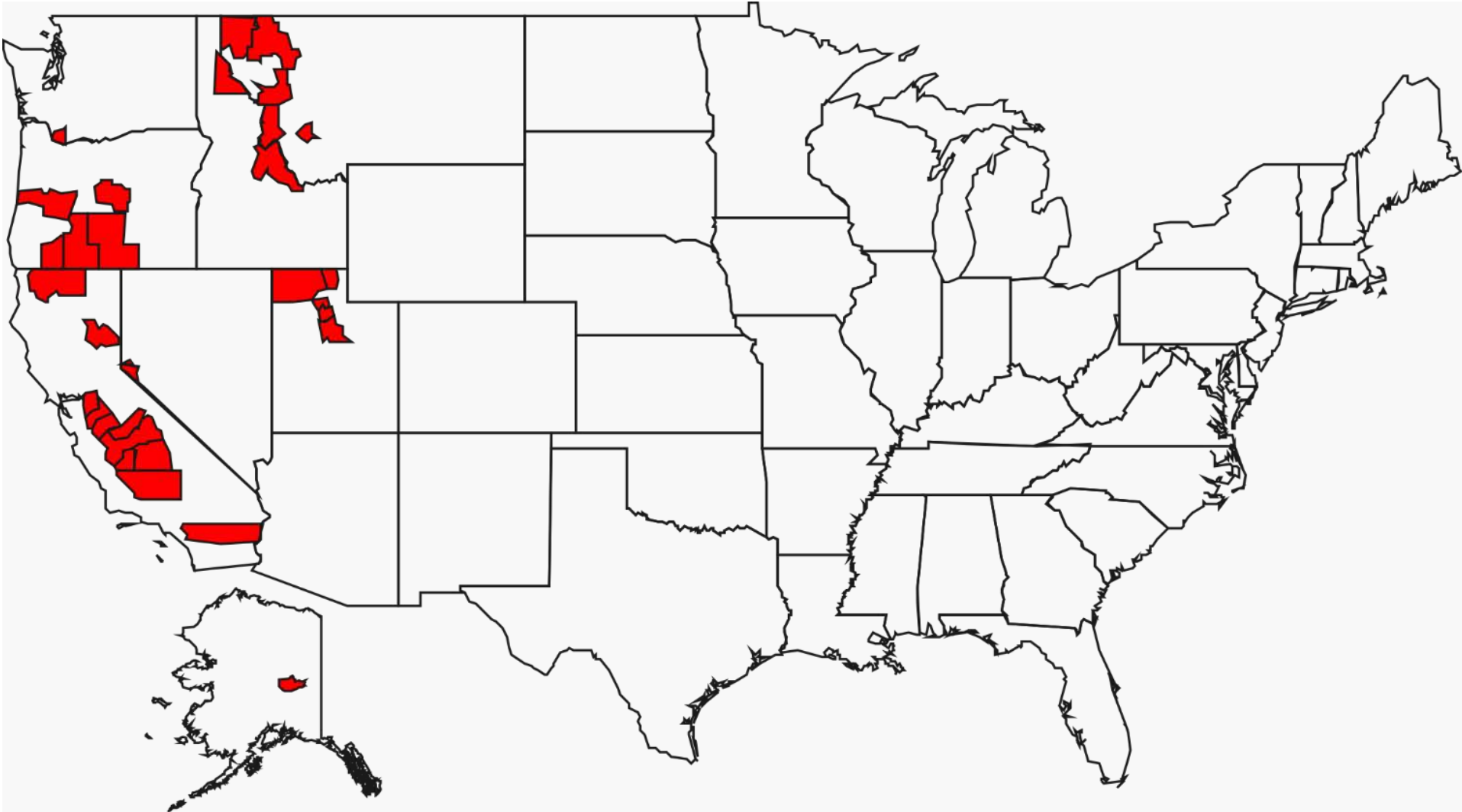
2012 Annual NAAQS (12 µg/m³)

- Of the 9 areas designated nonattainment, 7 continue to violate and 1 has incomplete data (Lebanon County, PA)
- 3 counties violate the NAAQS outside nonattainment areas (Hawaii HI, Lemhi ID, San Luis Obispo, CA)



PM_{2.5} 24-hour 2013-2015 Design Values

Counties with DV > 35 µg/m³



PM_{2.5} Annual 2013-2015 Design Values

Counties with DV > 12 µg/m³



2015 Design Values: NO₂/SO₂/Pb/CO NAAQS

NO₂ NAAQS

- 2010 1-hour (100 ppb): all areas of the country to meet the NAAQS
 - Near-road data collected in 2014 and 2015 are below the NAAQS (highest annual values are ~ 75 ppb)
- 1971 annual (53 ppb): all areas of the country are meeting the NAAQS

SO₂ NAAQS: 2010 1-hour (75 ppb)

- 11 of the 29 areas designated nonattainment in 2013 are currently meeting the NAAQS (only 22 monitors above the standard)
- 4 areas designated nonattainment in June 2016 based on modeling data

Pb NAAQS: 2008 rolling 3-month average (0.15 µg/m³)

- 12 of the 21 areas designated nonattainment are currently meeting the NAAQS
- 8 monitors violate outside NA areas (down from 14)



2015 Design Values: PM₁₀/CO NAAQS

PM10 1987 NAAQS

- 89 areas designated nonattainment:
 - 37 areas are not violating the NAAQS
 - 16 areas are violating the NAAQS
 - 36 areas do not have enough valid data to make a determination (some of these are still in nonattainment status)
- 22 additional counties that were not previously designated nonattainment now violate the NAAQS

CO NAAQS

- Monitors are meeting both the 8-hour and 1-hour NAAQS



Regulatory Revisions to Appendix W: Schedule

- On July 14, 2015, the EPA proposed to update to the *Guideline on Air Quality Models*
 - Published in the Federal Register (80 FR 45340) on July 29, 2015
 - Docket ID No. EPA-HQ-OAR-2015-0310
 - 90-day public comment window with 99 comments received from industrial stakeholders, federal/state/local government and tribal agencies, environmental groups, etc.
- 11th Conference on Air Quality Modeling
 - August 12 and 13, 2015 at the EPA RTP, NC Campus
 - Conference focused on the proposed revisions to the *Guideline*
 - Served as public hearing for NPRM as part of public comment period
 - Transcripts and presentations posted to Docket and on the 11th Conference on Air Quality Modeling informational website

<http://www3.epa.gov/ttn/scram/11thmodconf.htm>



Regulatory Revisions to Appendix W: Schedule

- In the spring of 2016, the *Guideline* final rule was determined to be significant requiring OMB review.
 - The rulemaking package was submitted to OMB on August 30, 2016 with an anticipated 45 to 60 days review period.
 - Per this schedule, the final rule should be signed in the mid- to late-October 2016 timeframe.
- The revised Appendix W will become effective 30 days after Administrator signature and will include a 1-year transition period as described in the preamble to the rule.



Appendix W: Main Proposed Actions

- Science improvements to AERMOD Modeling System
 - ADJ_U* and LOWWIND3 options to address technical concerns and improve model performance under extremely light winds
 - Enhanced treatment of horizontal and capped stacks
 - Addition of a buoyant line source option
 - Updates to the NO₂ screening techniques, including a new Tier 2 Ambient Ratio Method (ARM) and revised Tier 3 Plume Volume Molar Ratio Method (PVMRM)
 - AERSCREEN as the recommended screening model for simple and complex terrain for single sources
- Proposed Long Range Transport (LRT) screening approach
- Single-Source Impacts on Ozone and Secondary PM_{2.5}
- Removal of BLP, CALINE, and CALPUFF as EPA preferred models



Proposed Actions: Single-Source Impacts on Ozone and Secondary PM_{2.5}

- The EPA believes photochemical grid models are generally most appropriate for addressing ozone and secondary PM_{2.5}, because they provide a spatially and temporally dynamic realistic chemical and physical environment for plume growth and chemical transformation.
- Lagrangian models (e.g. SCICHEM) applied with a realistic 3-dimensional field of chemical species could also be used for single source O₃ or PM_{2.5} assessments.
- The EPA is proposing a two-tiered demonstration approach for addressing single-source impacts on ozone and secondary PM_{2.5}.
 - Tier 1 demonstrations would use exiting information relating emissions and air quality impacts.
 - Tier 2 demonstrations would be case-specific.
 - The EPA is working toward guidance for Tier 1 and Tier 2 demonstration approaches.



Model Emissions Rate for Precursors: O₃ and Secondary PM_{2.5}

- EPA will provide technical guidance that will allow development of Tier 1 demonstration tools under Appendix W for PSD permitting.
 - A Modeled Emission Rate for Precursors (MERP) is a type of Tier 1 demonstration tool that would represent a level of increased precursor emissions that is not expected to contribute significantly to levels of ozone or secondarily-formed PM_{2.5}.
 - Guidance would provide a framework on how to arrive at values for MERPs based on existing relevant modeling or newly developed area specific modeling from which source/states can utilize in their compliance demonstrations. The guidance would not endorse a specific MERP value for each precursor.
 - Draft guidance will be released for public comment in September.
 - Final MERPs guidance to coincide with the finalization of the SILs Guidance.



Draft Guidance on Significant Impact Levels (SILs) for Ozone and PM_{2.5} in the Prevention of Significant Deterioration Permitting Program

- Draft guidance posted (revised version posted August 18, 2016) for 60 day comment period through September 30, 2016
 - Draft guidance includes a memorandum that identifies recommended SIL values for ozone and PM_{2.5} and describes how these values may be used in a PSD compliance demonstration;
 - A technical basis document (with supporting appendices) describing how EPA developed the SIL values for PM_{2.5} and ozone; and
 - A legal support document that discusses a legal basis that permitting authorities may choose to apply if allowing sources to use SILs as part of their compliance demonstrations.
 - Webinar was given on August 24. Slides are posted on website below
 - <https://www.epa.gov/nsr/forms/significant-impact-levels-ozone-and-fine-particles-prevention-significant-deterioration>



Recommended SIL Values

Criteria pollutant (NAAQS level)	Recommended NAAQS SIL concentration
Ozone 8-hour (70 ppb)	1.0 ppb
PM _{2.5} 24-hour (35 µg/m ³)	1.2 µg/m ³
PM _{2.5} annual (12 µg/m ³ or 15 µg/m ³)	0.2 µg/m ³ *

	PM _{2.5} Annual PSD increments, increment SILs			PM _{2.5} 24-hr PSD increments, increment SILs		
	Concentrations, µg/m ³			Concentrations, µg/m ³		
	Class I	Class II	Class III	Class I	Class II	Class III
Increments	1	4	8	2	9	18
PSD increment SILs	0.05	0.2	0.2	0.27	1.2	1.2

*The permitting authority has discretion to interpret an annual impact between 0.2 µg/m³ and 0.3 µg/m³ as significant.



Future Modeling Work

- Continue to improve science in AERMOD, specifically research coordination with ORD and stakeholders on:
 - Downwash algorithms
 - Mobile source modeling (RLINE)
 - Evaluation of Offshore & Coastal Dispersion Model (OCD)
 - Instrumented modeling techniques for photochemical models (secondary pollutants)
- Regulatory and Policy Applications
 - SO₂ Implementation
 - NATA
- Further engagement with the stakeholder community leading up to the 12th Conference on Air Quality Models in 2018





APPENDIX

NAAQS Reviews: Status Update

(as of September 2016)

	Ozone	Lead	Primary NO ₂	Primary SO ₂	Secondary NO ₂ and SO ₂	PM	CO
Last Review Completed (final rule signed)	Oct. 2015	Oct 2008	Jan 2010	Jun 2010	Mar 2012	Dec 2012	Aug 2011
Recent or Upcoming Major Milestone(s)¹	TBD ²	<u>Dec 2014</u> Proposed decision <u>2016</u> Final decision	<u>Jan 2016</u> Final ISA <u>Summer 2016</u> 1 st Draft PA/REA	<u>Jan 2016</u> CASAC review of 1 st Draft ISA <u>Winter 2016/2017</u> 2 nd Draft ISA REA Planning Document	<u>Oct 2015</u> Draft IRP <u>Fall 2016</u> Final IRP <u>Winter 2017</u> 1 st Draft ISA REA Planning Document	<u>April 2016</u> Draft IRP <u>Fall 2016</u> Final IRP <u>Fall 2017</u> 1 st draft ISA REA Planning Document	TBD ²

Additional information regarding current and previous NAAQS reviews is available at: <https://www3.epa.gov/ttn/naaqs/>

¹ IRP – Integrated Review Plan; ISA – Integrated Science Assessment; REA – Risk and Exposure Assessment; PA – Policy Assessment

² TBD = to be determined



Anticipated NAAQS Implementation Milestones

(as of August 2016)

Pollutant	Final NAAQS Date	Designations Effective	Infrastructure SIP Due	Attainment Plans Due	Attainment Date
PM _{2.5} (2006)	Oct 2006	Dec 2009	Oct 2009	Dec 2014	Dec 2015 (Mod) Dec 2019 (Ser)
Pb (2008)	Oct 2008	Dec 2010-2011	Oct 2011	June 2012-2013	Dec 2015-2019
PM _{2.5} (2012)	Dec 2012	Apr 2015	Dec 2015	Oct 2016 (Mod)	Dec 2021 (Mod) Dec 2025 (Ser)
NO ₂ (2010) (primary)	Jan 2010	Feb 2012	Jan 2013	N/A	N/A
SO ₂ (2010) (primary)	June 2010	Oct 2013, Sept 2016 (+2 rounds)	June 2013	April 2015, March 2018 (2019, 2022)	Oct 2018, Sept 2021 (2023, 2026)
Ozone (2008)	Mar 2008	July 2012	Mar 2011	Mid 2015-2016	Mid 2015-2032
Ozone (2015)	Oct 2015	Dec 2017	Oct 2018	Dec 2020-2021	2020-2037



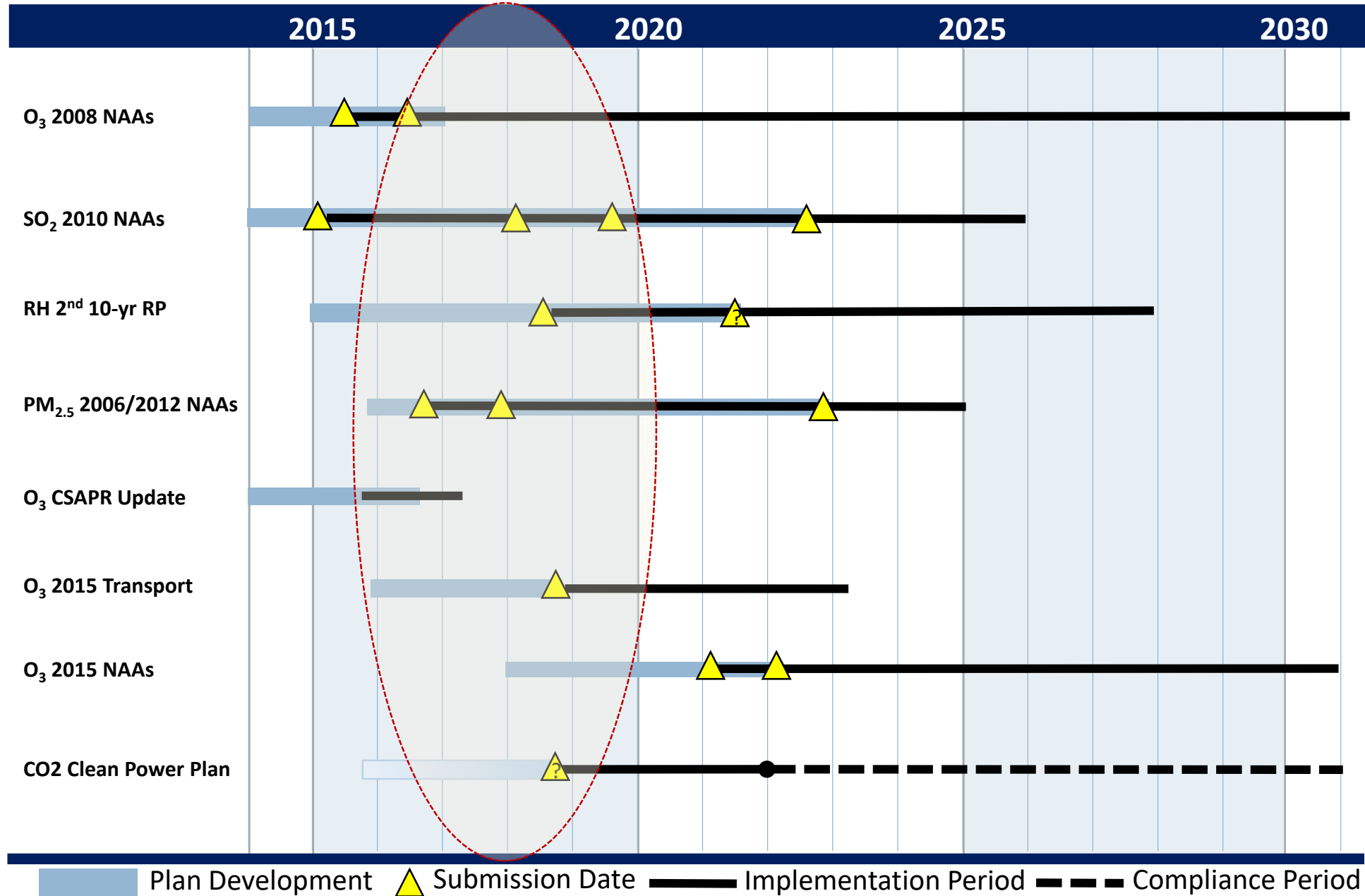
Multi-Pollutant Planning

- A multi-pollutant focus can help optimize strategies to concurrently reduce emissions and exposures to criteria and toxic air pollutants in ways that can reduce air pollution risks and maximize public health protection
- Upfront and early consideration of upcoming NAAQS, climate change, or air toxics policies, as well as local strategies can improve decision making in a way that minimizes costs, and synchronizes timing and planning process
- EPA continues to consider mechanisms to better integrate CAA requirements and timing
 - It is a dynamic process – we need to continuously review multi-pollutant approaches as we implement current programs and as new requirements arise
- Planning for the Future:
 - Identifying applicable requirements
 - Looking for opportunities to harmonize federal requirements
 - Continue dialogue with states and communities to identify how to best coordinate and harmonize
 - Continue to promote and support early planning through Ozone and PM Advance Programs
- Additional information and resources on multi-pollutant planning can be found at www.epa.gov/advance/advance-resources



Multiple Air Quality Planning Programs

June 2016



EXCEPTIONAL EVENTS AND SMOKE MANAGEMENT PROGRAMS

Beth Palma

Air Quality Policy Division

OAQPS, U.S. EPA

March 22, 2017



Exceptional Events

- On September 16, 2016, the EPA finalized the **2016 Revisions to the Exceptional Events Rule**, which address issues raised by stakeholders and increase the administrative efficiency of the rule process
 - <https://www.epa.gov/air-quality-analysis/treatment-data-influenced-exceptional-events>
 - Rule effective date was September 30, 2016
 - Published in Federal Register on October 3, 2016 (81 FR 68216)
 - NRDC/Sierra Club filed a Petition for Review on December 2, 2016 (petitioners' brief due 5/17/17, EPA response due 8/17/17)
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 - Establishes procedures and criteria for identifying and evaluating air quality monitoring data affected by exceptional events
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 - Affects design value calculations, NAAQS designation decisions, attainment determinations, and State / Tribal / Federal Implementation Plan (SIP/FIP/TIP) development



Exceptional Events Rule Revisions

- Clarify the types of determinations and actions to which the authorizing statutory authority in Clean Air Act (CAA) section 319(b) applies
- Return to the core statutory elements of CAA section 319(b)
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 - The event was a human activity that is unlikely to recur at a particular location or was a natural event
- Clarify “not reasonably controllable or preventable” criteria
- Clarify high wind elements currently addressed in guidance
- Codify requirements for the content and organization of exceptional events submittals
- Remove “general schedule” deadlines for data flagging and demonstration submittal



Exceptional Events Rule Revisions

- New fire-related rule language and preamble text (more on following slides)
- Mitigation Regulatory Requirements
- Other provisions
 - Address who may submit a demonstration
 - Event aggregation
 - Identified in preamble intended timelines for EPA response



Exceptional Events Rule Revisions

- Fire-related rule language and preamble text
 - Define fire-related terms in regulatory language
 - Wildland means an area in which human activity and development are essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered.
 - Prescribed Fire is any fire intentionally ignited by management actions in accordance with applicable laws, policies, and regulations to meet specific land or resource management objectives.
 - Wildfire is any fire started by an unplanned ignition caused by lightning; volcanoes; other acts of nature; unauthorized activity; or accidental, human-caused actions, or a prescribed fire that has developed into a wildfire. A wildfire that predominantly occurs on wildland is a natural event.
 - Clarify that all wildfires on wildland are natural events
 - Clarify that prescribed fire on wildland is a human-caused event eligible for treatment as an exceptional event



Exceptional Events Rule Revisions

- Provisions for prescribed fires
 - Language in the preamble recognizes the need for and benefits of prescribed fire
 - Applying rule criteria to prescribed fire
 - *Clear causal relationship* – analyses similar to those for wildfires (see guidance)
 - *Human activity unlikely to recur* – recurrence is either the natural fire return interval OR the fire frequency needed to establish, restore and/or maintain a sustainable and resilient wildland ecosystem (as documented in a land/resource management plan)
 - *Not reasonably preventable* – incorporates concept of “foregone benefits” and uses same approach as unlikely to recur
 - *Not reasonably controllable* – fire conducted under a certified and implemented Smoke Management Program or using basic smoke management practices



Exceptional Events Rule Revisions

- Recommended Smoke Management Program (SMP) elements (rule preamble)
 - *Authorization to Burn* – process for granting approval to manage Rx fire (could include burn permits)
 - *Minimizing Air Pollutant Emissions* – either follow appropriate emission reduction techniques or consider/evaluate alternatives to fire
 - *Smoke Management Components of Burn Plans* – identifies components if SMP includes burn plans (i.e., actions to minimize fire emissions, approaches to evaluate smoke dispersion, public notification and exposure reduction procedures, and air quality monitoring)
 - *Public Education and Awareness* – criteria for issuing health advisories and procedures for notification
 - *Surveillance and Enforcement* – procedures to ensure compliance with terms of SMP
 - *Program Evaluation* – provides for periodic review of SMP effectiveness and program revision
- SMPs must be state-certified
 - “Certified” – responsible official “certifies” in a letter to the EPA Administrator or Regional Administrator
 - SMPs in SIPs are certified



Exceptional Events Rule Revisions

Basic Smoke Management Practices (Table 1 in rule)

Basic Smoke Management Practice ^b	Benefit achieved with the BSMP	When the BSMP is Applied – Before/During/After the Burn
Evaluate Smoke Dispersion Conditions	Minimize smoke impacts	Before, During, After
Monitor Effects on Air Quality	Be aware of where the smoke is going and degree it impacts air quality	Before, During, After
Record-Keeping/Maintain a Burn/Smoke Journal	Retain information about the weather, burn and smoke. If air quality problems occur, documentation helps analyze and address air regulatory issues.	Before, During, After
Communication – Public Notification	Notify neighbors and those potentially impacted by smoke, especially sensitive receptors	Before, During
Consider Emission Reduction Techniques	Reducing emissions through mechanisms such as reducing fuel loading can reduce downwind impacts	Before, During, After
Share the Airshed – Coordination of Area Burning	Coordinate multiple burns in the area to manage exposure of the public to smoke	Before, During, After



Exceptional Events Rule Revisions

Example Elements in Burn Plans/Post-Burn Reports (Table 4 in preamble)

Element	Burn Plan	Post-Burn Report
Fire Name ^a	Include	Include
Permit number (if appropriate)	Include	Include
Latitude/longitude and physical description	Include	Include
Date of burn, ignition time and completion time (duration of burn)	Include	Include
AQI status on burn day, if available (both in the vicinity of the fire and in the affected upwind area)	Predicted	Actual
Acres burned	Planned	Actual (blackened)
Description of fuel loading	Estimated	Actual (tons consumed)
Meteorological data (weather conditions, wind speed and direction, dispersion)	Predicted conditions (including predicted dispersion)	Actual conditions (including actual dispersion)
Smoke Impacts	Anticipated smoke impacts	Observed or reported smoke impacts (include nature, duration, spatial extent and copies of received complaints)
BSMP actions to reduce impacts	Expected BSMP actions	Actual BSMP actions
Recommendations for future burns in similar areas		Include
Analytics (modeled/actual fire spread, satellite imagery and analysis, webcam/video, PM/ozone concentrations over the course of the fire)		Include



Exceptional Events Rule Revisions

- Provisions for prescribed fires (cont'd)
 - Remove existing rule language requiring a state to reconsider adopting a SMP after each exceptional event
 - Require land managers, bun managers and air agencies to collaborate regarding the process by which the agencies will work together to include general expectations for selection and application of appropriate BSMP (2-year phase in period)
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 - Different for prescribed fire on wildland and other event types
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Exceptional Events Implementation: Available Resources

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Exceptional Events Implementation: Next Steps

- The 2016 rule revisions and final wildfire/ozone guidance were needed first steps, but efficient and coordinated implementation is critical.
- What is next?
- Additional Implementation Guidance Under Consideration
 - Revisions to 2013 *Interim Exceptional Events Guidance Documents*
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Questions and Comments



EXCEPTIONAL EVENTS AND SMOKE MANAGEMENT PROGRAMS

Ruben Casso
Air Quality Policy Division
OAQPS, U.S. EPA
April 11, 2017



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 - Templates
 - Website updates
 - AQS modifications to reflect rule revisions guided by feedback from newly created AQS workgroup
 - Standardized metrics and tracking
 - Targeted efforts with FLMs – communications and tools
 - Best practices for multi-agency exceptional events demonstrations



Questions and Comments



COMPONENTS OF A SUCCESSFUL EXCEPTIONAL EVENTS DEMONSTRATION

Ben Gibson
Air Quality Policy Division
OAQPS, U.S. EPA
SESARM Spring Meeting
June 6, 2017



Exceptional Events

- On September 16, 2016, the EPA finalized the **2016 Revisions to the Exceptional Events Rule**, which address issues raised by stakeholders to reduce unnecessary burden and increase the administrative efficiency of the exceptional events demonstration process
 - Overarching goal was to improve the demonstration development and review process by improving communications, providing recommendations for demonstration narrative and analyses to include in demonstration packages, providing needed clarity in the rule and increasing administrative efficiency of demonstration submittal process
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- Clarify the types of determinations and actions to which the authorizing statutory authority in Clean Air Act (CAA) section 319(b) applies
- **Return to the core statutory elements of CAA section 319(b)**
- Clarify “not reasonably controllable or preventable” criterion
- Clarify high wind elements initially addressed in 2013 guidance
- **Codify requirements for the content and organization of exceptional events demonstrations**
- Remove “general schedule” deadlines for data flagging and demonstration submittal
- Include fire-related rule language and preamble text
- Include regulatory requirements for mitigation
- Include other provisions



Components of an Exceptional Events Demonstration

- Codify requirements for the content and organization of exceptional events demonstrations (*40 CFR 50.14(c)(3)(iv) and (v)*)
 - Narrative conceptual model
 - Demonstration of clear causal relationship (including analyses comparing the claimed event-influenced concentration to historical concentrations)
 - Demonstration that the event was not reasonably controllable and not reasonably preventable
 - Demonstration that the event was a human activity unlikely to recur at a particular location or was a natural event
 - Documentation that the public comment process was followed:
 - 30-day public comment period
 - Submission of public comments
 - Address comments disputing or contradicting factual evidence in the demonstration



Components of an Exceptional Events Demonstration

- Return to the core statutory elements of CAA section 319(b)
 - The event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation
 - The event was caused by human activity that is unlikely to recur at a particular location or was a natural event
 - The event was not reasonably controllable or preventable
- Recommended order of analyses within a demonstration
 - Natural events – clear causal, human activity/natural event, not reasonably controllable/preventable
 - Human activities unlikely to recur (particularly high wind dust events) - not reasonably controllable/preventable, clear causal, human activity/natural event



Clear Causal Relationship

The event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation.

- Weight of evidence analyses
- Rule language for natural events
 - Wildfires on wildland, stratospheric ozone intrusions
 - Volcanos (no specific regulatory language)
- Components of the clear causal relationship demonstration
 - Analyses that the event occurred
 - Analyses showing that the event-related emissions/pollutant were transported to the monitor(s) recording the elevated concentration(s)
 - Analyses showing that the event-related emissions/pollutant reached ground level



Clear Causal Relationship

- Analyses that the event occurred
 - Comparison to historical concentrations (example analyses in rule preamble)
 - Occurrence and geographic extent of the event (news statements, advisories, satellite imagery, etc)
- Analyses showing that the event-related emissions/pollutant were transported to the monitor(s) recording the elevated concentration(s)
 - Satellite imagery
 - Back/forward trajectories
 - Directional wind data
- Analyses showing that the event-related emissions/pollutant reached ground level
 - Speciation data at the monitor (or at regional monitors)
 - Spatial extent maps comparing event days and non-event days



Human Activity Unlikely to Recur or a Natural Event

The event was caused by human activity that is unlikely to recur at a particular location or was a natural event.

- Natural Events
 - *Natural event* means an event and its resulting emissions, which may recur at the same location, in which human activity plays little or no direct causal role. For purposes of the definition of a natural event, anthropogenic sources that are reasonably controlled shall be considered to not play a direct role in causing emissions. (40 CFR 50.1(k))
 - Recognized natural events (81 FR 68232): wildfires, stratospheric ozone intrusions, volcanic and seismic activity, natural disasters, and windblown dust from natural, undisturbed landscapes
 - Natural events can recur



Human Activity Unlikely to Recur or a Natural Event

The event was caused by human activity that is unlikely to recur at a particular location or was a natural event.

- Human activity that is unlikely to recur at a particular location
 - Unlikely to recur
 - Benchmark of three events in 3 years: same event type generating emissions of the same pollutant in the 3 years prior to the date of the event in question
 - A single discrete event is one occurrence even if it extends over more than one day
 - Particular location
 - Definition may vary depending on the specifics of the area
 - Air agencies and EPA Regional offices should proactively discuss what a “particular location” means



Not Reasonably Controllable or Preventable

The event was not reasonably controllable or preventable

- Not reasonably controllable
 - Reasonable measures to control the impact of the event on air quality were applied at the time of the event
- Not reasonably preventable
 - Reasonable measures to prevent the event were applied at the time of the event
- Case specific approach evaluated in light of information available as of the date of the event



Not Reasonably Controllable or Preventable

- Regulatory presumptions for not reasonably controllable or preventable in certain situations
 - The emissions generating activity is beyond the jurisdictional boundaries of the state submitting the demonstration [50.14(b)(8)(vii)]
 - The emissions generating activity is a natural event and all anthropogenic contributors are reasonably controlled
 - Wildfires on wildland [50.14(b)(4)]
 - Large-scale, high-energy high wind dust events [50.14(b)(5)(vi)]
 - Stratospheric ozone intrusions [50.14(b)(6)]
 - Deference to measures in a nonattainment or maintenance SIP/FIP/TIP approved within 5 years of the date of the event [50.14(b)(8)(v)]
- If applicable, demonstrations should point to the specific regulatory presumption



Not Reasonably Controllable or Preventable

- Analyses to address other/non-natural sources that could potentially contribute to event-related emissions
 - Identify the natural and anthropogenic sources of emissions causing and contributing to the monitored exceedance or violation, including the contribution from local sources
 - Identify the relevant SIP, FIP or TIP or other enforceable control measures in place for these sources and the implementation status of these controls
 - Provide evidence of effective implementation and enforcement of reasonable controls, if applicable.



Exceptional Events Implementation: Next Steps

- The 2016 rule revisions and final wildfire/ozone guidance were needed first steps, but efficient and coordinated implementation is critical. November 2016 workshops were an important step in successful implementation (*i.e.*, to make sure that EPA Headquarters, EPA Regional offices, and states/locals/tribes are on same page).
- What is next?
- Additional Implementation Materials
 - Revisions to 2013 *Interim Exceptional Events Guidance Documents*
 - Stratospheric Ozone Intrusion Document
 - Alternate Paths for Data Exclusion Document
 - Prescribed Fire/Ozone Document
- Continued development of exceptional events tools
 - Templates
 - Website updates
 - AQS modifications to reflect rule revisions guided by feedback from newly created AQS workgroup
 - Standardized metrics and tracking
 - Targeted efforts with FLMs – communications and tools
 - Best practices for multi-state exceptional events demonstrations



Questions and Comments





Final Exceptional Events Rule Revisions and Final Wildfire/Ozone Implementation Guidance

US EPA

Office of Air Quality Planning and Standards

WESTAR Fall Meeting

September 2016

Background



- March 2007 – Exceptional Events Rule promulgated
- May 2013 - EPA finalized interim exceptional events implementation guidance and announced intent to revise the Exceptional Events Rule and develop wildfire/ozone implementation guidance
- August thru November 2013 – Stakeholder outreach and listening sessions related to rule revisions
- December 2014 – Exceptional events website redesign and development/publication of exceptional events criteria/pollutant matrix with linked examples
- Mid-2014 thru early 2015 – Focused best practices conference calls with regional offices and states
- October 2015 – Final Ozone NAAQS containing flagging and demonstration submission schedule for data influenced by exceptional events to be used in the initial area designations process
- November 2015 - Notice of Proposed Rulemaking for rule revisions and Notice of Availability for draft guidance (82 FR 72840)
- December 8, 2015 – Public hearing in Phoenix, Arizona
- February 3, 2016 – Close of comment period
- June 22, 2016 – (Draft) final rule package and final guidance accepted by OMB for 60-day review

Exceptional Events Schedule in 2015 Ozone NAAQS



- Developed to ensure that EPA has adequate time to assess any exceptional events demonstrations that would substantively affect designations for the 2015 revised Ozone NAAQS (*e.g.*, nonattainment vs. attainment, Marginal vs. Moderate). Relevant monitoring data years:
 - 2014-2016 for ozone designations promulgated in October 2017 under the CAA's 2-year designation schedule
 - 2017 data - only if designations are completed under a 3-year schedule
- Schedule follows past practice and splits the available time during the designations process between the states and EPA.
- Schedule establishes demonstration submission deadlines as follows:
 - **October 1, 2016 (for 2013 - 2015 data)**
 - May 31, 2017 (for 2016 data)
 - May 31, 2018 (for 2017 data)
- Demonstration submission rule language specifies a generic "delta schedule" that would apply to any future NAAQS revision.
- The final Exceptional Events Rule revisions retain the same "delta schedule" that we promulgated in the 2015 Ozone NAAQS.



Next Steps

- Additional Program Elements
 - Delegation of Authority – implemented in EPA Regions 7 and 10; others in process
 - Demonstration tracking system
 - Mechanism to access of fire-related documents
 - Continued development of exceptional events tools (*e.g.*, website, templates, tools)
- Additional guidance document(s) and tools planned/in-progress
 - Revisions to *Interim Exceptional Events Guidance Documents*
 - Stratospheric Ozone Intrusion Guidance
 - Alternate Paths for Data Exclusion Guidance
 - Prescribed Fire Guidance
- Communication and outreach



Planned Communication and Outreach

- Outreach at various meetings (*e.g.*, WESTAR, NACAA)
- Public outreach webinar (September 21??)
 - Content of the rule revisions
 - Content of final guidance
- Implementation workshop(s) for air agencies
 - November 8-9 in Denver (WESTAR co-host)
 - November 30 in Dallas
- Continued internal EPA coordination, including consistency checks using internal EPA Exceptional Events Work Group